AMENDMENTS TO THE CLAIMS

Docket No.: 20241/0207055-US0

The following listing of claims replaces all prior versions, and listings, of claims in this application.

Claim 1 (Currently Amended). A molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (I)

$$R_1$$
 R_2 R_3 R_4

wherein R₁ and R₅ are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 earbons or carbons,

wherein Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl [[or]] and substituted aralkyl

Z is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl [[or]] and substituted aralkyl;

Docket No.: 20241/0207055-US0

 R_2 and R_4 are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, [[or]] and hydroxyl, [[or]] or, when R_1 , R_3 or R_2 is alkoxy having 1 to 4 carbons or hydroxyl, R_2 and R_4 are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,

$$---SO_2--Y$$
 and $----z$

wherein Y and Z are as defined above, when R₁, R₃ or R₅ is alkoxy-having 1 to 4 earbons or hydroxyl; above:

 R_3 is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkenyl having 1 to 4 carbons, hydroxyl, Formula (H) or (II), Formula [[(III)]] (III), —SO;—Y, and —C(=O)—Z, wherein Y and Z are as defined above,

$$R_7$$
 R_6
 R_9
 R_{13}
 R_{12}
 R_{11}
 R_{12}

Docket No.: 20241/0207055-US0

wherein X is selected from the group consisting of

wherein w is 0, 1 or 2; u is 0 or 1; q is 0 to 4; R_{14} and R_{15} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, optionally substituted phenyl [[or]] and optionally substituted aralkyl; R_{16} is selected from the group consisting of hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, substituted phenyl [[or]] and substituted aralkyl;

 R_{6} , R_{9} and R_{10} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, [[or]]

Docket No.: 20241/0207055-US0

wherein Y and Z are as defined above:

R₇, R₈, R₁₁, and R₁₃ are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons [[or]] and hydroxyl, but when R₁₂ is alkoxy having 1 to 4 carbons or hydroxyl, R₁₁ is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl,

$$---SO_2-Y$$
 and $----C-Z$

wherein Y and Z are as defined above when R_{12} is alkoxy having 1 to 4 carbons or hydroxyl; above; R_{12} is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl or selected from the group consisting of hydroxyl.

wherein Y and Z are as defined above, or selected from the group consisting of

$$\left[\left[\begin{array}{cc} --so_2--y\end{array}\right]\right] \quad \text{and} \quad \left[\left[\begin{array}{cc} --c--z\\ \parallel \end{array}\right]\right]$$

Docket No.: 20241/0207055-US0

wherein Y and Z are as defined above, provided that

when R3 is of Formula (II), one of R1, R5, R6, and R9 is selected from the group consisting of

wherein Y and Z are as defined above, in which, when X is

$$\begin{array}{c|c}
 & R_{14} \\
 & C \\
 & R_{15}
\end{array}$$

at least one of R1, R2, R4, R5, R6, R7, R8, and R9 is -SO2-Y, and

when R₃ is of Formula (III), at least one of R₁, R₅, and R₁₀ is selected from the group consisting of

in which, when X is

$$\begin{pmatrix}
R_{14} \\
C \\
C \\
R_{15}
\end{pmatrix}$$
 u

at least one of R_1 , R_2 , R_4 , R_5 , R_{10} , R_{11} , R_{12} , and R_{13} is —SO₂ —Y,

wherein Y and Z are as defined above, and

when R_3 is selected from a group other than the group consisting of Formula (II) [[or]] and (III), either of R_1 or R_5 is selected from the group consisting of

Docket No.: 20241/0207055-US0

wherein Y and Z are is as defined above, and

the phenol derivative is reacted with an organic compound under conditions sufficient to form the molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

Claim 2 (Currently Amended). A molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (IV)

wherein A is selected from the group consisting of

Docket No.: 20241/0207055-US0

and

wherein w is 0, 1 or 2 and u is 0 or 1;

 R_{18} , R_{19} , R_{21} and R_{24} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons [[or]] and alkenyl having 2 to 4 carbons;

R₁₇ is selected from the group consisting of

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wherein Y and Z are selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

Docket No.: 20241/0207055-US0

phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4

carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4

carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4

carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α-methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2

to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, [[or]] and

naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4

carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

R20, R22, and R23 are same or different selected from the group consisting of hydrogen,

halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 earbons or

the same groups as those for R₁₇; carbons, -SO₂-Y, and -C(=O)-Z, wherein Y and Z are as

defined above, and

when A is

----(CH₂)_u-----

at least one of R17, R20, R22, and R23 is -SO2-Y wherein Y is as defined above, and

an organic compound, compound as the other reactant under conditions sufficient to form

the molecular compound selected from the group consisting of hydrates, solvates, adducts, and

clathrate compounds having the phenol derivative as a constituent, the constituent being a host,

- 10 -

Claim 3 (Currently Amended). A molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (V)

Docket No.: 20241/0207055-US0

wherein B is a group selected from the group consisting of

wherein w is 0, 1 or 2 and u is 0 or 1;

 R_{26} , R_{27} , R_{30} and R_{32} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons [[or]] and alkenyl having 2 to 4 carbons;

 R_{25} , R_{28} , R_{29} , and R_{31} are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 earbons or carbons.

Docket No.: 20241/0207055-US0

$$---SO_2--Y$$
 and $---c$

wherein Y and Z are selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkexy having 1 to 4 carbons or hydroxyl or halogen,

phenyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α-methylbenzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen. [[or]] and

naphthyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

Docket No : 20241/0207055-US0

at least one of R25, R28 and R29 is selected from the group consisting of

wherein Y and Z are selected from the group consisting of as defined above, and

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

eyclohexyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkenyl having 1 to 4 carbons or hydroxyl or halogen,

eyelopentyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkenyl having 1 to 4 carbons or hydroxyl or halogen.

phenyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkenyl having 1 to 4 carbons or halogen,

benzyl-which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkenyl having 1 to 4 carbons or hydroxyl or halogen;

phenethyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkexy having 1 to 4 carbons or hydroxyl or halogen,

66-methylbenzyl-which may-have alkyl-having 1 to 4 carbons or alkenyl-having 2 to 4 carbons or alkenyl-having 1 to 4 carbons or hydroxyl or halogen, or

alkoxy having 1 to 4 carbons or hydroxyl or halogen,

naphthyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or

Docket No.: 20241/0207055-US0

when B is

at least one of R25, R28, R29, and R31 is -SO2 -Y wherein Y is as defined above, and

an organic compound as the second reactant under conditions sufficient to form the molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

Claim 4 (Currently Amended). A molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (VI)

$$\begin{array}{c|c} R_{33} & R_{34} \\ \hline \\ HO & R_{35} \\ \hline \\ R_{37} & R_{36} \end{array} \hspace{0.5cm} (VI)$$

wherein R₃₃ is selected from the group consisting of

Docket No.: 20241/0207055-US0

wherein Y and Z are is selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

 α -methylbenzyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, [[or]] and

naphthyl optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkeny having 1 to 4 carbons or hydroxyl or halogen, and

 R_{34} , R_{35} , R_{36} and R_{37} are same or different selected from the group consisting of hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, halogen or the same groups as those for R_{33} ; halogen and $-SO_2-Y$, wherein Y is as defined above.

with an organic compound as the second reactant under conditions sufficient to form the molecular compound selected from the group consisting of hydrates, solvates, adducts, and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

Claims 5-15 (Cancelled).

Claim 16 (Currently Amended). A molecular compound according to Claim 1, in which the molecular-compound contains, as constituents; comprising:

Docket No.: 20241/0207055-US0

[[al]] the phenol derivative selected from the group consisting of represented by Formula

[[(I);]] (I) as defined in Claim 1; and

a material that reacts with the phenol derivative to form a molecular compound compound,

the material selected from the group consisting of antibacterial agents, antifungal agents,

insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for

coating materials, accelerators for coating materials, resins, adhesives, natural essential oils,

antioxidants, vulcanization accelerators and organic solvents.

Claim 17 (Currently Amended). A molecular compound according to Claim 2, in which

the molecular compound contains, as constituents: comprising:

[[a]] the phenol derivative selected from the group consisting of represented by Formula

[[(IV);]] (IV) as defined in Claim 2; and

a material that reacts with the phenol derivative to form a molecular compound,

the material selected from the group consisting of antibacterial agents, antifungal agents,

insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for

coating materials, accelerators for coating materials, resins, adhesives, natural essential oils,

antioxidants, vulcanization accelerators and organic solvents.

Claim 18 (Currently Amended). A molecular compound according to Claim 3, in which

the molecular compound contains, as constituents: comprising:

- 17 -

Docket No.: 20241/0207055-US0

[[a]] the phenol derivative selected from the group consisting of represented by Formula

[[(V);]] (V) as defined in Claim 3; and

a material that reacts with the phenol derivative to form a molecular compound compound,

the material selected from the group consisting of antibacterial agents, antifungal agents,

insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for

coating materials, accelerators for coating materials, resins, adhesives, natural essential oils,

antioxidants, vulcanization accelerators and organic solvents.

Claim 19 (Currently Amended). A molecular compound according to Claim 4, in which

the molecular compound contains, as constituents: comprising:

[[a]] the phenol derivative selected from the group consisting of represented by Formula

[[(VI);]] (VI) as defined in Claim 4; and

a material that reacts with the phenol derivative to form a molecular compound compound,

the material selected from the group consisting of antibacterial agents, antifungal agents,

insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for

coating materials, accelerators for coating materials, resins, adhesives, natural essential oils,

antioxidants, vulcanization accelerators and organic solvents.

Claims 20-31 (Cancelled).

- 18 -